UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,182	01/20/2004	John Brawner Duffie III	10-008	7709

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EXAMINER
SERRAO, RANODHI N

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/759,182	DUFFIE ET AL.
	Examiner	Art Unit	
	Ranodhi Serrao	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 January 2004</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-35</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-35</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>20 January 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>4/20/2004</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4)

because reference characters 14, 16, 22, 24, and 38 have been used to designate

several items in figure 1 and character 14 have been used to designate several items in

figure 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. Each drawing sheet

submitted after the filing date of an application must be labeled in the top margin as

either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the

changes are not accepted by the examiner, the applicant will be notified and informed of

any required corrective action in the next Office action. The objection to the drawings

will not be held in abeyance.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Young

et al. (2003/0093563).

4.   As per claim 1, Young et al. teaches a method in a router having at least one

outbound interface (paragraph 0013), the method comprising: establishing, on one of

the outbound interfaces, a plurality of Internet Protocol (IP-based secure connections

with respective destinations based on receiving encrypted packets generated by a

cryptographic module (paragraph 0098), each encrypted packet successively output

from the cryptographic module having a corresponding successively-unique sequence

number (paragraphs 0067 and 0143: wherein datagram serves the function of a

sequence number); controlling supply of data packets to the cryptographic module

(paragraph 0123: wherein MAND serves the function of a cryptographic module) by: (1)

assigning, for each secure connection, a corresponding queuing module (paragraph

0051), (2) reordering, in each queuing module, a corresponding group of the data

packets associated with the corresponding secure connection according to a

determined quality of service policy (paragraph 0009) and based on a corresponding

assigned maximum output bandwidth for the corresponding queuing module, and (3)

outputting to the cryptographic module the group of data packets, from each

corresponding queuing module according to the corresponding assigned maximum

output bandwidth, for generation of the encrypted packets (paragraph 0051); and

second outputting the encrypted packets from the cryptographic module to the one

outbound interface for transport via their associated secure connections (paragraph

0098).

5.   As per claim 10, Young et al. teaches a router comprising: a cryptographic

module configured for successively outputting encrypted packets having respective

successively-unique sequence numbers (paragraphs 0067 and 0143: wherein datagram

serves the function of a sequence number); an outbound interface configured for

establishing a plurality of Internet Protocol (IP)-based secure connections with

respective destinations based on receiving respective streams of the encrypted packets

(paragraph 0098); and a queue controller configured for controlling supply of data

packets to the cryptographic module, the queue controller configured for assigning, for

each secure connection, a corresponding queuing module, each queuing module

configured for: (I) outputting to the cryptographic module a corresponding group of the

data packets associated with the corresponding secure connection (paragraph 0051),

and according to a corresponding assigned maximum output bandwidth for the

corresponding queuing module, for generation of the corresponding stream of the

encrypted packets (paragraphs 0085-0087), and (2) reordering the corresponding group

of the data packets according to a determined quality of service policy and the

corresponding assigned maximum output bandwidth (paragraph 0009).

6.   As per claim 18, Young et al. teaches a computer readable medium having

stored thereon sequences of instructions for outputting encrypted packets by a router

having at least one outbound interface, the sequences of instructions including

instructions for: establishing, on the outbound interface, a plurality of Internet Protocol

(IP)-based secure connections with respective destinations based on receiving

encrypted packets generated by a cryptographic module (paragraph 0098), each

encrypted packet successively output from the cryptographic module having a

corresponding successively-unique sequence number (paragraphs 0067 and 0143:

wherein datagram serves the function of a sequence number); controlling supply of data

packets to the cryptographic module (paragraph 0123: wherein MAND serves the

function of a cryptographic module) by: (1) assigning, for each secure connection, a

corresponding queuing module (paragraph 0051), (2) reordering, in each queuing

module, corresponding group of the data packets associated with the corresponding

secure connection according to a determined quality of service policy (paragraph 0009)

and based on a corresponding assigned maximum output bandwidth for the

corresponding queuing module (paragraph 0051), and (3) outputting to the

cryptographic module the group of data packets, from each corresponding queuing

module according to the corresponding assigned maximum output bandwidth, for

generation of the encrypted packets (paragraph 0051); and second outputting the

encrypted packets from the cryptographic module to the one outbound interface for

transport via their associated secure connections (paragraph 0098).

7.   As per claim 27, Young et al. teaches A router having at least one outbound

interface, the router further comprising: means for establishing, on the outbound

interface, a plurality of Internet Protocol (IP)-based secure connections with respective

destinations based on receiving encrypted packets (paragraph 0098); means for

generating the encrypted packets, each encrypted packet successively output having a

corresponding successively-unique sequence number (paragraphs 0067 and 0143:

wherein datagram serves the function of a sequence number) and means for controlling

supply of data packets to the generating means (paragraph 0123: wherein MAND

serves the function of a cryptographic module), including: (1) means for assigning, for

each secure connection, a corresponding queuing means for queuing data packets

(paragraph 0051), (2) means for reordering, in each queuing means, a corresponding

group of the data packets associated with the corresponding secure connection

according to a determined quality of service policy (paragraph 0009) and based on a

corresponding assigned maximum output bandwidth for the corresponding queuing

means, the means for reordering configured for outputting to the generating means the

group of data packets, from each corresponding queuing means according to the

corresponding assigned maximum output bandwidth, for generation of the encrypted

packets (paragraph 0098).

8.   As per claims 2, 11, 19, and 28, Young et al. teaches a method, wherein the

reordering step includes, in each queuing module, reordering the corresponding group

of the data packets according to the determined quality of service policy in response to

detection of a congestion condition in the one outbound interface (paragraph 0009).

9.   As per claims 3, 12, 20, and 29, Young et al. teaches a method, wherein the

reordering step includes, in each queuing module: establishing a plurality of queues

having respective identified priorities (paragraph 0051); storing each data packet

associated with the corresponding secure connection in one of the queues based on a

corresponding identified priority for said each data packet (paragraph 0019); and

selectively outputting the stored data packets from the queues, according to the

corresponding quality of service policy (paragraph 0009).

10.   As per claims 4, 21, and 30, Young et al. teaches a method, wherein: the

establishing step includes establishing, on each of a plurality of the outbound interfaces

(paragraph 0080), a corresponding plurality of the secure corrections with a

corresponding plurality of respective destinations based on receiving a corresponding

stream of encrypted packets from the cryptographic module (paragraph 0082); the

controlling step includes controlling the supply of data packets, for each outbound

interface, from the cryptographic module based on repeating the assigning, reordering,

and outputting steps for each of the secure connections (paragraph 0150); the second

outputting step including outputting each encrypted packet to a corresponding one of

the outbound interfaces according to a routing decision executed by the router

(paragraph 0098).

11.   As per claims 5, 13, 22, and 31, Young et al. teaches a method, wherein the

second outputting step includes outputting the encrypted packets for transport via their

associated secure connections according to IP Security (IPSEC) protocol (paragraph

0123).

12.   As per claims 6, 14, 23, and 32, Young et al. teaches a method, wherein the

determined quality of service policy implements a guaranteed quality of service for one

of a video stream and an audio stream (paragraph 0053).

13.   As per claims 7, 15, 24, and 33, Young et al. teaches a method, wherein the

audio stream is a Voice over IP media stream (paragraph 0053).

14.   As per claims 8, 16, 25, and 34, Young et al. teaches a method, wherein the

controlling step further includes obtaining, for each queuing module, the corresponding

assigned maximum output bandwidth from a configuration register (paragraph 0051).

15.   As per claims 9, 17, 26, and 35, Young et al. teaches a method, wherein the

controlling step further includes negotiating, for at least one queuing module, the

corresponding assigned maximum output bandwidth with the corresponding destination

(paragraphs 0085-0087).

16.   As per claim 21, Young et al. teaches a medium, wherein: the establishing step

includes establishing, on each of a plurality of the outbound interfaces, a corresponding

plurality of the secure connections with a corresponding plurality of respective

destinations based on receiving a corresponding stream of encrypted packets from the

cryptographic module (paragraph 0098); the controlling step includes controlling the

supply of data packets, for each outbound interface, from the cryptographic module

based on repeating the assigning, reordering, and outputting steps for each of the

secure connections (paragraph 0150); the second outputting step including outputting

each encrypted packet to a corresponding one of the outbound interfaces according to a

routing' decision executed by the router (paragraph 0098).

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. These references are disclosed in the Notice of References Cited

and teach numerous other ways of implementing an arrangement in an IP node for

preserving security-based sequences by ordering IP packets according to quality of service requirements prior to encryption, thus a close review of them is suggested.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ranodhi Serrao whose telephone number is (571)272-7967. The examiner can normally be reached on 8:00-4:30pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER